REMARKS

Claims 1-23 are currently pending in the subject application. Favorable reconsideration is respectfully requested in view of the comments below.

The Anticipation Rejection

Claims 1, 9, and 17 stand rejected under 35 U.S.C. §102(e) as being anticipated by Ziari (U.S. Patent 6,404,542). Referring to Figure 2, Ziari shows a waveplate 210 attached to faceplate of a housing that contains a crystal. In Col. 3, lines 36-45 Ziari mentions that the waveplate 210 can be formed by applying a polymer coating to the faceplate, and then exposing the polymer coating to linearly polarized light. Referring to Figure 3, Ziari relates to inserting a waveplate into a waveguide on a waveguide structure (*See* Col. 4, lines 51-54). The Examiner indicates that claims 1, 9, and 17 are anticipated by forming the waveplate of Figure 3 in the manner described in Col. 3, lines 36-45 (exposing a polymer coating to linearly polarized light). Applicants respectfully disagree.

To establish anticipation, each and every claim feature must be disclosed in a single cited art document. Claims 1, 9, and 17 require forming a polarization swapping portion in a waveguide. Ziari fails to disclose forming a polarization swapping portion in a waveguide for several reasons.

First, the teaching of forming a waveplate from a polymer coating in Figure 2 CANNOT be implemented in the arrangement of Figure 3. The waveguide structure of Figure 3 does not have a surface on which to apply a polymer coating which can be converted into a waveplate. This is why the description of Figure 3 in Ziari, at Col. 4, line 52, clearly indicates that the waveplate 310 is INSERTED into a waveguide. The constitution of Figure 3 does not permit formation of the waveplate as described in Col. 3, lines 36-45 of Ziari. Physical insertion of a waveplate in a waveguide, rather than forming *in situ* a waveplate in a waveguide, presents numerous concerns. These concerns include insertion loss, backreflection, alignment, and mechanical stability, to name a few. *In situ* formation of a waveplate in a waveguide in accordance with the claims addresses these concerns.

Second, Ziari clearly fails to disclose forming a polarization swapping portion IN a waveguide. Forming a waveplate using polarized light in a polymer coating is NOT the same as forming a waveplate in a waveguide *in situ*. A waveguide functions to direct the flow of one or more channels of light through a predetermined path of a substrate. The polymer coating of Ziari forms a waveplate, which rotates the polarization of light passing therethrough. A polymer coating waveplate as described by Ziari is NOT a waveguide.

Since Ziari does not disclose all of the claimed features, Ziari cannot anticipate claims 1, 9, and 17. Withdrawal of the rejection is respectfully requested.

The Obviousness Rejection

Claims 2-8, 10-16 and 18-23 stand rejected under 35 U.S.C. §103(a) as being unpatentable Ziari in view of over Modavis (U.S. Patent 5,881,187). Modavis relates to writing a Bragg grating in an optical fiber using linearly polarized light. Modavis does not cure the aforementioned deficiencies regarding Ziari. Withdrawal of the rejection is therefore respectfully requested.

With specific regard to claims 3, 11, 14, 15, 19, and 22, none of the cited art teaches or suggests using a femto-second pulsed light. This is a further notable distinction between the claims and the cited art as a femto-second pulsed laser provides a high peak intensity at very tight focus, which facilitates formation of the waveplate in an OIC waveguide. Ziari and Modavis fail to teach or suggest the use or advantages associated with using a femto-second pulsed laser as required by claims 3, 11, 14, 15, 19, and 22. For this additional reason, withdrawal of the rejection of claims 3, 11, 14, 15, 19, and 22 is respectfully requested.

With regard to claim 16, none of the cited art teaches or suggests using a prism to direct light at a waveguide. This is another notable distinction between the claims and the cited art as it is difficult to introduce light precisely into a waveguide at an angle necessary to form a waveplate *in situ*. Ziari and Modavis fail to recognize this difficulty; therefore, one skilled in the art would not have been motivated by Ziari or Modavis to

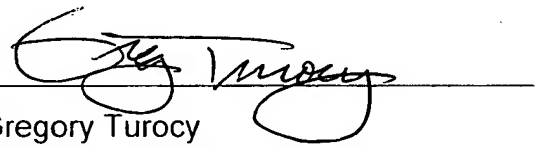
employ a prism when forming a waveplate. For this additional reason, withdrawal of the rejection of claim 16 is respectfully requested.

Should the Examiner believe that a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

In the event any fees are due in connection with the filing of this document, the Commissioner is authorized to charge those fees to our Deposit Account No. 50-1063.

Respectfully submitted,

AMIN & TUROCY, LLP



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